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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,868	04/11/2002	Yuri Evgenievich Korchev	GJE-81	8909

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EXAMINER

WEBER, JON P

ART UNIT	PAPER NUMBER
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1651

DATE MAILED: 04/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/030,868

**Applicant(s)**

KORCHEV ET AL.

**Examiner**

Jon P Weber, Ph.D.

**Art Unit**

1651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 18-52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                    |                                                                             |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____                                                |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>20020603,20021125</u> .                                                   | 6) <input type="checkbox"/> Other: _____                                    |

*Status of the Claims*

Claims 18-52 have been presented for examination.

*Claim Objections*

Claim 35 is objected to because of the following informalities:

Claim 35 recites "ionconductance" which should be two words.

Appropriate correction is required.

*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18-27, 35-39, 50 and 52 are rejected under 35 U.S.C. 102(b) as being anticipated by Lewis et al. (US 4,917,462).

Lewis et al. (US 4,917,462) disclose an NSOM apparatus involving a metal-coated glass pipette having a thin tip. The claimed method and apparatus comprises a means for determining the proximity of said aperture to the surface of a sample, and for activating said means for mounting said pipette to move said aperture with respect to a sample to position the surface of the sample within the near-field region of said aperture. Lewis et al. (US 4,917,462) teach the application of an electrical potential between the pipette and the stage, resulting in a measurable current to provide a feedback signal used to determine and control the distance between aperture

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and object (column 11, lines 27-52) as one of the possible means. Another means for controlling the position of the probe uses uniformly fluorescently labeled sample and controls the positioning by monitoring fluorescence intensity.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis et al. (US 4,917,462) in view of Islam (US 5,485,536) and further in view of Tan (1998).

The teachings of Lewis et al. (US 4,917,462) have been discussed above. Lewis et al. (US 4,917,462) lacks as assay component a substance that produces a detectable change inside or at the surface of the cell as well as a fiber optic probe.

Islam (US 5,485,536) discloses a fiber optic probe for NSOM.

Tan (1998) demonstrates that it is known in the art to combine near field optics with biomolecule detection at the surface or inside a cell.

A person of ordinary skill in the art at the time the invention was made would have been motivated to substitute the fiber optic probe of Islam (US 5,485,536) for the optical probe of Lewis et al. (US 4,917,462) because of the advantages that can occur with the fiber optic probe as outlined by Islam. Further, it is routine in the art of biochemistry to probe cells with

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substances that produce visible and fluorescent light and to use a pipette probe to deliver said substance, see Tan (1998), for example.

Hence, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use a fiber optic probe or a chemical detecting probe in an NSOM device.

No claims are allowed.

Other references cited by examiner but not relied upon are cited to establish the state of the art.

Betzig et al. (US 5,105,305) discloses a fluorescent NSOM probe and its use.

Betzig (US 5,254,854) discloses an NSOM device that uses changes in shear forces of the vibrating tip of the probe to control and monitor the position of the probe during scanning.

Quate (US 5,354,985) discloses an NSOM device that used a vibrating cantilever to control and monitor the position of the probe during scanning.

Shao et al. (US 6,621,079) is not prior art but it is only two months junior to the instant priority date.

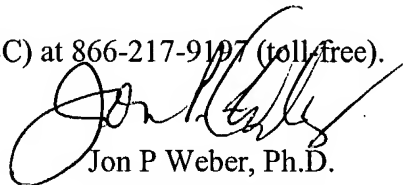
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon P Weber, Ph.D. whose telephone number is 571-272-0925.

The examiner can normally be reached on daily, off 1st Fri, 9/5/4.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Wityshyn can be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).



Jon P Weber, Ph.D.  
Primary Examiner  
Art Unit 1651

JPW  
21 April 2004